

### Programming Exercise #3

Write a program to simulate Segmentation. Compute the physical address. Take as input:

1. Segment number
2. Base address
3. Segment limit
- 4.

```
#include <stdio.h>
#include <stdlib.h>

int main()
{
    int segment_number, base_address, segment_limit, offset,
    physical_address;
    printf("Enter segment number: ");
    scanf("%d", &segment_number);
    printf("Enter base address: ");
    scanf("%d", &base_address);
    printf("Enter segment limit: ");
    scanf("%d", &segment_limit);

    // Input offset
    printf("Enter offset: ");
    scanf("%d", &offset);
    if (offset >= segment_limit) {
        printf("Error: Offset is outside the segment limit.\n");
        exit(0);
    }
    physical_address = base_address + offset;
    printf("Physical address: %d\n", physical_address);

    return 0;
}
```

```
P5 C:\Nikhil\school-work\Programs\4th Sem\05> cd "c:\Nikhil\school-work\Programs\4th Sem\05\" ; if ($?) { gcc segmentation
n.c -o segmentation } ; if ($?) { .\segmentation }
Enter segment number: 2
Enter base address: 23
Enter segment limit: 150
Enter offset: 2
Physical address: 25
P5 C:\Nikhil\school-work\Programs\4th Sem\05> □
```